

COMMUNICATING TOGETHER



A QUARTERLY MAGAZINE ABOUT AUGMENTATIVE AND ALTERNATIVE COMMUNICATION

VOLUME 4, NUMBER 4

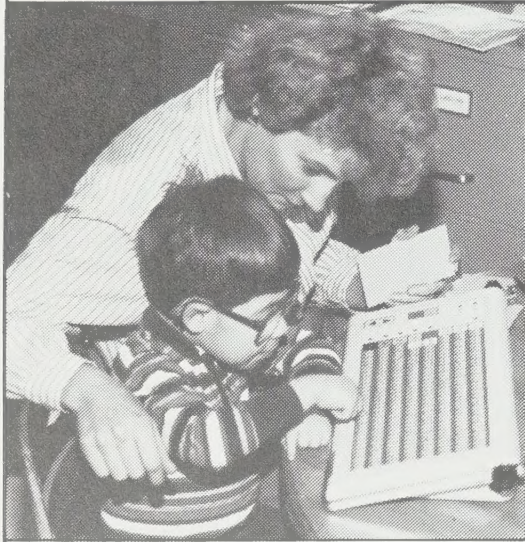
DECEMBER 1986



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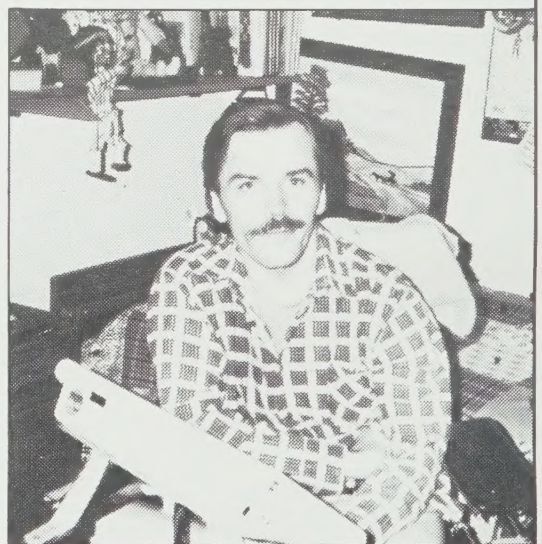
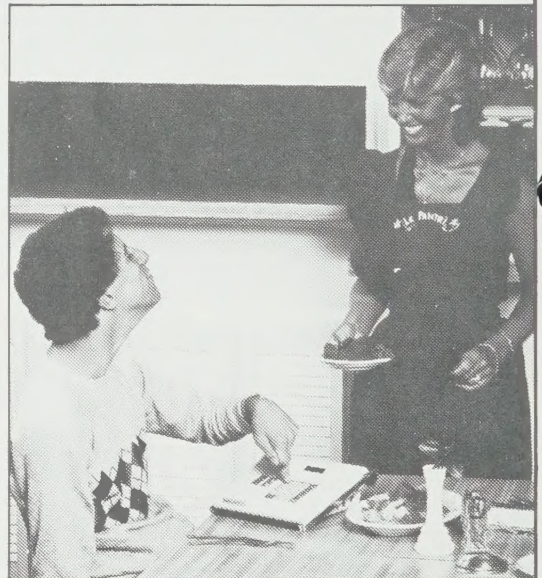
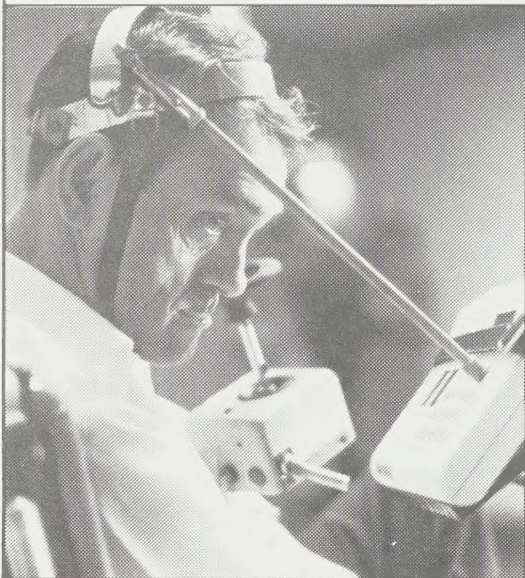
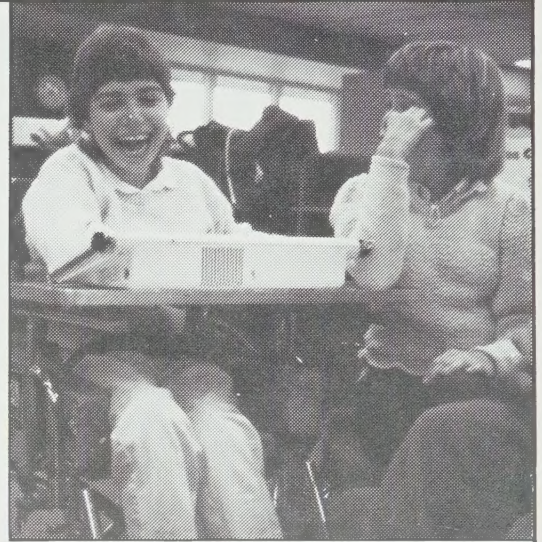
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Alvas at the Science North centre in
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SUDBURY SUMMER

IAN HENDERSON

Elaine Drover, a young cerebral palsied woman from Newfoundland, had the unique opportunity this past summer to work at Science North in Sudbury, Ontario. In preparing the following account of this experience, Ian Henderson, free-lance writer, interviewed Miss Drover in Toronto prior to her departure for Sudbury. As well he spoke with several people who were assisting Miss Drover with her work and living arrangements in Sudbury, and with visitors to the Communication and Computers display at the science centre.

Elaine Drover plays her Blissymbol board the way some people play tennis: trading volleys from the baseline until she sees her chance. "What do you know about Blissymbolics?" she asks, catching the other party off his guard. "Well," he replies, very seriously, "I'm familiar with the outline, but not the details." Now Elaine moves to the net and goes to her backhand. "Smart cookie!" she exclaims. Game and set.

This past summer, Elaine had an opportunity to exploit her sense of humour and other gifts, as a staff member in the Communication and Computers Section of Science North, a hands-on exhibition of the sciences in Sudbury, Ontario. Working with an Apple IIe, she demonstrated and explained Blissymbolics and its related software program Blissapple, and encouraged visitors to try out the keyboard. Peter Salvas, an assistant program planner at Science North, and Elaine's supervisor, describes the public's response: "People stayed right there and listened to everything she said. They've never had the chance to meet someone like Elaine before. And they stayed there longer with her than with the computer. Maybe she communicates a bit fast as her finger flies over her board from one Blissymbol to another, but they kept right on asking her questions."

How It Came About

This work took Elaine, 25, a long way from her home in St. John's,

Newfoundland. While her abilities and outgoing personality won her the job, she was introduced to Science North through coincidence. David Goforth, the Director of the Communications and Computers Program at Science North, had initiated the idea of a display featuring Blissymbolics. He telephoned the Blissymbolics Communication Institute in Toronto to ask for a recommendation of a summer student who could host the display. He followed up with a visit to BCI. Another visitor at this same time, Jane Green, a BCI associate from Newfoundland, put forward Elaine as the ideal candidate. Funding from the Newfoundland provincial government and what one participant describes as "a lot of planning on the part of people in Newfoundland" facilitated Elaine's acceptance of the subsequent offer of employment.

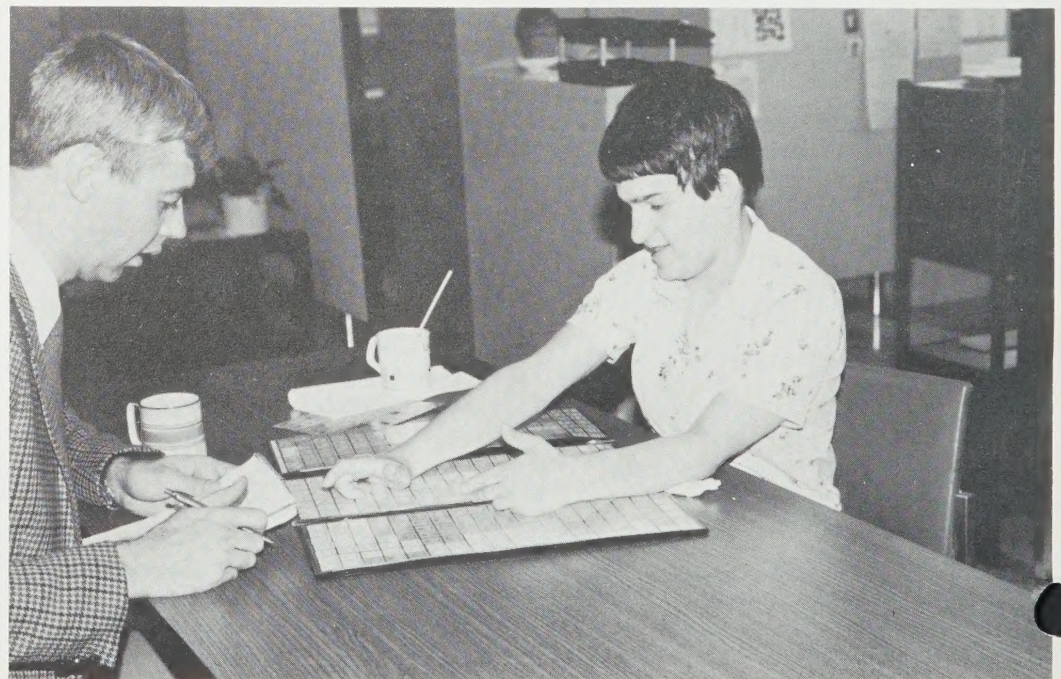
Elaine started receiving instruction on computers, with a view to her future job, at Memorial University in her home town. The early sessions were sometimes frustrating (like other beginners, she wanted to kick the computer), and were also delayed by a wait for delivery of a keyguard. But she soon became proficient in communicating through the computer. At Science North, she created her own messages to

converse with visitors. To encourage the timid, she called up preselected greetings, such as "Please bug me!" The technology, however, impressed visitors less than her own enthusiasm and wit. Elaine added her skill in conversing with her Blissymbol board to her computer messages to ensure that all the visitors got lots of information.

A Long Way from Home

Elaine was originally from a remote mining community, Baie Verte, about 400 miles northwest of St. John's. She arrived in St. John's in 1969, to attend the Virginia Waters School, a newly opened school for disabled children. She stayed in St. John's throughout her school years, living first in the Children's Home, and then in a residence called Exon. Elaine returned regularly during holiday time to her family in Baie Verte.

It was while at Virginia Waters school in 1975 that Elaine was introduced to Blissymbolics by her then teacher Jane Green. Up to this time communication had been one of the major problems encountered by Elaine and those who related with her. Now a teenager, she was finally able to express her own ideas and feelings. That first



Elaine Drover talking with Ian Henderson.

summer when she visited her family she "talked" constantly, and returned to school the next fall with a well worn symbol board. In recent years she has been involved in workshops and an advocacy group in St. John's, and has worked for Goodwill. Even though her visits home are infrequent, Elaine continues to enjoy the support and encouragement of her family.

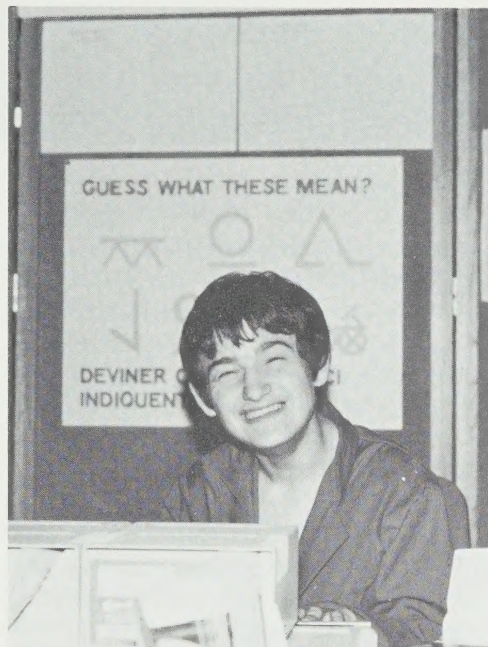
A Chance for Independence

At Science North, Elaine was definitely on her own. "She had the same responsibilities as everyone else," says Peter Salvat. "She had to learn the same thing as anyone who works here, that you have to approach the visitors. They come over, but then it's up to you. They want to see things, but they're afraid to get more involved. You have to entice them and tell them to come a bit closer."

Although this wasn't Elaine's first job, dealing with the public on this scale was a new experience. "I am learning a lot," she said at one point in the summer. That included learning to work with her colleagues, as a team member. "She doesn't quite yet feel she's part of the gang," Peter noted, "but that takes time, for anybody." Elaine enjoys socializing: at the start of the workday, she says, "I turn on the computers, then talk to my friends, maybe get a laugh." But Peter, she confides, kept her busy. "He makes me face up to life. He's a good friend."

Science North is open on weekends as well as weekdays, which gave Elaine little time to explore Sudbury. She shared a four-bedroom apartment in the city with two other young women. This apartment was operated by Participation Projects and contained units which were specially equipped for disabled tenants. They prepared their own meals and, perhaps with less enthusiasm, did their own house-keeping. "We could write a book about each day's events," Elaine says. "Once we had an overflow (from a leaking waterbed). A good thing I was not here ... could have been swimming in it!"

What does her supervisor think of her work this summer? "We're lucky to have her here," he says, "because she's the hardest worker



Elaine at her work station at Science North.

we have, and the most dedicated." Peter also appreciates Elaine's love of a joke, and the sparkle that she brought to the workplace. He recalls that, at the end of a busy, tiring day, she spelled out for him a single-word message that summed up the situation: "Zoo!" Which shows that Elaine can not only volley: she also has a pretty good serve. □

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that

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Announcing

David Woods Memorial Fellowship

In recognition of the unique contribution of David Woods as a director of the Blissymbolics Communication Institute, 1981 - 1985, a fellowship in his memory has been established.

The David Woods Memorial Fellowship provides annually the opportunity for a study period of two to four weeks, at the Blissymbolics Communication Institute. Eligible candidates must have professional training in a discipline associated with augmentative communication and be responsible for the implementation of an augmentative communication program in their region or country. The focus of the training will be upon the development and application of Blissymbolics within the broad field of augmentative communication.

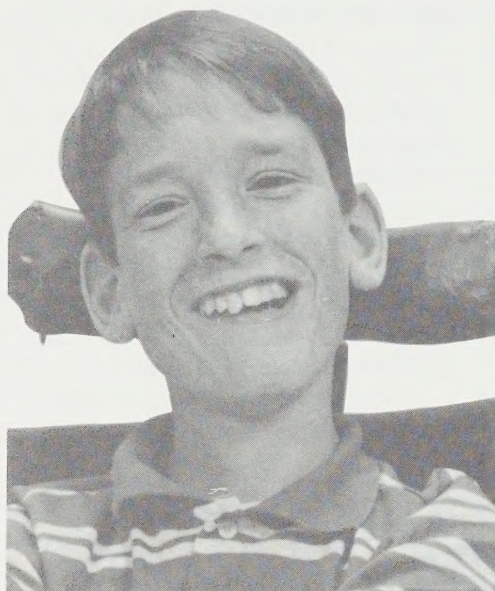
The professional and material resources of the Institute and its associates will be available to the selected fellow.

Persons interested in applying for the 1987 David Woods Memorial Fellowship should send their curriculum vitae along with their reason for wishing this study opportunity to:

Mrs. Katherine Seybold
Blissymbolics Communication Institute
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Differences

ANDREW MURPHY



Andrew Murphy has been the editor of the Family and Community section of Communicating Together since the magazine began in 1982. A Blissymbol user for many years, he now uses the Mod Keyboard for written communication. Andrew and his family now live in Florida, but he is anxious to continue his association with us. Writing with the help of his father Mark, he shares his new perspective with readers, and includes the stories and experiences of other augmentative communication families.

When we moved to Florida from Toronto one year ago, we knew life would be different. The most obvious difference is in the weather: warm in Florida when it's cold in Toronto and hotter in Florida when it's hot in Toronto. Although the weather difference may be an immediate and obvious difference, I and all my family have experienced many differences.

Where we live there is no centre like The Hugh MacMillan Medical Centre (HMMC) or groups like Augmentative Communication Service (ACS) or BCI. This means there is not a group of experts all in one place working with nonspeaking people. I met a lot of good friends through HMMC and have not been able to meet new people here easily. The school I now attend is big

(3,000 students), and I am merely one of a handful of disabled and one of only two nonspeaking people. Because of the lack of awareness of Blissymbols, few people have taken the time to learn how to communicate with me. This has resulted in the biggest difference for me. There are not many friends outside my family whom I can talk to. And after all, there are only certain things you can talk about with your family, especially your parents. In Toronto, I have a few good friends who spent lots of time talking with me. I enjoyed these long talks and miss them. My goal this year is to make new friends in Florida with whom I can communicate.

I went to two different camps this summer: one in Florida and a surprise return to Blue Mountain Camp in Ontario. What a difference! I always enjoyed Blue Mountain Camp, but now I think that it is the best camp in the world for people like me. I wish I could stay there all summer. I am looking forward to returning next summer. In Florida, the camp was not used to nonspeaking people like me who need so much care. They did not know my special needs and didn't have time to talk with me individually. It was a long two weeks.

Now that I am back in school and know more about the difference between Florida and Toronto, I will work harder to make sure that I can enjoy my life here. I am learning an awful lot in school and want to get to know the people here as well.

* * *

More Letters!

Early in the summer I received this letter from Marcelo Bezerra who is a student at Escola do Quero-quero in São Paulo, Brazil. It is always great to receive letters, especially from people in different countries. Although there are many differences in countries, we know that one thing that can help overcome the differences is communicating with Blissymbols. I hope I receive more letters. □

Andrew Murphy
3278 Masters Drive
Clearwater, Florida 33519, U.S.A.

May 30, 1986

♡>| Andrew,
⊥₁ ⊙ Marcelo Bezerra.

⊥₁ ⊙ > Brazil.

⊥₁ ⊙ 14 years old.

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Quero-quero (São Paulo, Brazil)

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Marcelo Bezerra

Editors Note:

We have printed Marcelo's letter as he wrote it to Andrew. For those not familiar with Blissymbolics here is a translation of this letter. Words in brackets are understood, and included here for clarity.

May 30, 1986

Dear Andrew,

I am Marcelo Bezerra. I am from Brazil. I am fourteen years old. I saw you (in) (the) Blissymbol magazine. My therapist brought (it) (to) me. I am (a) physically handicapped teenager. My school is Quero-quero, São Paulo, Brazil.

How was your operation?
I want you to write to me.

Hugs,
Marcelo Bezerra

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Communicating Together
is sponsored by
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Ontario District.

SHARING IDEAS WITH NORA

Clarification Strategies

NORA ROTHSCHILD



"Sharing Ideas with Nora" is a forum for sharing information concerning all aspects of augmentative communication. Nora Rothschild, consultant with the Augmentative Communication Service of The Hugh MacMillan Medical Centre, heads up a regular column focussing on readers' questions, problems and experiences.

There are some people whose speech for a variety of reasons, is unclear. Their speech may not be understood in specific situations or by persons who are not very familiar with them. Many of these people do not require a formal system of augmentative communication, but may benefit from a means of clarifying their misunderstood speech attempts.

The following are some common-sense strategies which have been found to be effective in clarifying misunderstood communication attempts.

1. If a word or sentence has not been understood the person attempting to communicate should repeat it, if possible segmenting the sentence into words or breaking words into syllables.
2. If the speech attempt is still not understood, the individual should try to change or add other modes of communication. Sometimes using gestures, pantomime or pointing to appropriate objects can provide the listening partner with sufficient

clues to understand the speech attempt.

3. The communicator can try changing the content of the message while maintaining the meaning, attempting to say the same thing using different words. For example "I'll see you at the house" if not understood could be restated as "Meet you at home".

4. If the context or topic is unexpected or unknown to the partner, the communicator may need to give additional cues to establish the topic of the message. This can be done orally, gesturally, or by using a context board, i.e., a communication board with pictures, symbols or words, which lists frequently used topics of communication.

5. When providing clarification, the communicating partner may need to indicate to the listening partner what he/she is trying to accomplish. Phrases such as: "I'm going to give you a clue"; "I'll say it one word at a time"; or "it's about...", can help the listener. These phrases can be attempted orally or placed in strategic locations on a communication display. If using a voice output, the communicator can prepare the partner for spelling with preprogrammed sentences such as "I'm going to spell the word".

6. Clarification strategies are often unsuccessful because the listening partner does not give appropriate feedback. If the communicator is able to take the responsibility, he/she might solicit feedback from the listening partner with phrases such as: "Please guess aloud so I can confirm"; "Please listen — I'm not finished"; or "Look at my body — I'm giving you clues".

7. Any of the above suggestions can be used by people who are using pictures, symbols or words to communicate. If the person has adequate spelling abilities, then various means of spelling can be used. This may take the form of oral spelling, indicating letters on an alphabet display or forming the letters of the alphabet in the air or on a flat surface.

* * *

This will be my final article appearing in *Communicating Together* under the Heading of "Sharing Ideas with Nora". I have enjoyed hearing from you over the past four years and have found it a rewarding challenge to share my experiences with readers. I would like to express my appreciation to my colleagues at the Augmentative Communication Service for their patient support and valuable input. □

Editor's Note

Good-bye to "Sharing Ideas with Nora" — but a warm invitation for frequent articles from Nora and her colleagues at the Augmentative Communication Service, of The Hugh MacMillan Medical Centre (HMMC).

We will miss Nora's cheery smile and her relevant and practical advice in *Communicating Together*. Over the four years of publication, this regular feature has made an important contribution to our magazine. Prior to *Communicating Together*, Nora wrote Helpful Hints in BCI's Bulletin. We've had a long and valued association!

In looking back over Nora's articles since the fall of 1982, the topics have ranged from constructing communication boards, to ideas relating to communication for stroke patients and suggestions for what to do while waiting for an augmentative communication assessment. On several occasions, Nora shared her column with colleagues: Barbara Rush, Hamilton, Ontario; Caroline Musselwhite, North Carolina; Sheela Stuart, South Dakota; Christiane Charlebois-Marois, Quebec.

We understand the many demands upon Nora's time, in her consultant role with the busy and fast-growing Augmentative Communication Service of HMMC. It's with regret that we accept her decision to lessen her load by resigning from "Sharing Ideas With Nora".

Thanks Nora for all the stimulation and help! It's been great to have you with us in *Communicating Together's* first four years.
S.McN.

An Open Letter to my Daughter's Teacher

ANNE ROBISON

Anne Robison is the mother of four children, ages one to seven. Her daughter Lynn is now six, and has used various forms of augmentative communication since she was two years old. Mrs. Robison is a speech-language pathologist and is currently working part-time with the local school district. She also serves on a team with the Colorado Department of Education to help meet the needs of nonspeaking children in rural areas. Mrs. Sue King is Lynn's teacher at Oak Grove Elementary School, Montrose, Colorado. She and Mrs. Robison began planning several months ahead to ensure Lynns' smooth integration into her new school.

Dear Sue,

As planned, Lynn will be joining your class this fall. She is very excited about attending school with her brother. Since she will be the first child you have taught who uses different devices to help her communicate, I want you to feel comfortable in talking with her. She is difficult to understand when she speaks, due to her cerebral palsy. Just as other children her age have better skills in understanding language than in producing it, Lynn often has something to say that is not in her speaking vocabulary. You will need to be flexible in accepting how she expresses her thoughts and needs. Sometimes she uses a word/picture board or a computer with a voice synthesizer to help communicate her message. At times, she will rely on you to ask her "yes/no" questions and guess what she wants.

Lynn will be six when she starts kindergarten. You will be a very important person in her life, just as you are very important to all your other students. However, your role in my Lynn's life will be pivotal. You will be the first non-family, non-therapist to work with Lynn on a daily basis. In the past you successfully incorporated children with learning disabilities or emotional

problems into your class. The classroom adaptations that you may need to make are similar for children like Lynn who are physically handicapped. You will enrich my child's life because you are trained to see the child first, not the special needs that accompany her.

You will help shape Lynn's perception about people in the world. You will also shape all your students' attitudes toward those who are different, those who are disabled. Although the "mainstreaming" laws have been in effect for a number of years, many children who are more severely handicapped have been sheltered in special classes. Lynn's presence in your room will teach the other students many lessons about differences and tolerance.

Communication Skills, the Heart of Adjustment

Communication skills will be at the heart of the adjustment you and Lynn make together in school. I would like to help you know how to best communicate with her. Children who have cerebral palsy are often very slow to answer questions or to respond in conversation. This is because it takes a great deal of muscle effort and planning to make sounds come out right, or to point to the correct place on a word board. The first thing you will notice is that you will need to slow your pace when speaking with Lynn and to wait for her response. Don't be too hard on yourself when you find this is difficult and you sometimes forget. After five years, I still find myself anticipating answers, and not giving her time to do it herself. I try to keep the following hints in mind when I talk with a nonspeaking child.

Ask questions one at a time. It is easy to say "How are you? Are you fine today?" Without pausing for breath. Train yourself to pause. Say "How are you?", and count to twenty, maintaining the expectation of an answer. If Lynn does not feel she is expected to answer, she may not. In class when you think a long pause may break up the rhythm of things, ask Lynn a question, and

tell her to think of an answer and then go back to her. You may need to call on three or four other students in the meantime; then expect her to answer.

If you increase "wait time" in asking questions of all students, then the time lag in waiting for Lynn to respond will not seem so awkward. Most teachers delay a short time between asking a question and expecting a response. If teachers make an effort to lengthen the "wait time" it allows *all* students time to compose better, more creative answers.

Children who are nonspeaking have different ways to signal the answer for "yes/no" questions. Lynn shakes her head for "no" and nods it for "yes". If she is perky, it is easy to know what she wants. If she is tired, you may need to tell her that you could not understand, that she needs to answer again.

Tricks to Stimulate Conversation

You will have many opportunities to communicate with Lynn when you want the situation to be more "free". Here are some "tricks" you may want to use.

Provide an opportunity for Lynn to initiate conversation. If you anticipate the subject, things will go much smoother. Set up a situation in which



Lynn Robison

the students are missing a key ingredient, and must ask for it before starting a project. By doing this, you will help her to learn one important reason people communicate.

Provide for some time that the other students will interact with Lynn. At first some of the children may be wary, or may not take turns very well. You may think of some games like concentration in which turn-taking becomes very natural. At first you may need to provide a number of structured situations for the children to interact. If they practise in the classroom, the interactive skills will carry over into less structured environments such as the lunchroom or playground.

Most of your students will have questions about Lynn. They may need to be told in simple language what is different about Lynn and what is the same. Lynn knows that people ask questions. She is not embarrassed when questions are answered. Some of your students may need guidance in how to play with Lynn or when and how to help her without treating her like a baby. I'm sure you have some good ideas on how to teach this.

Be sure to let the other students have some time with the "computer that talks". It is fascinating for kids to be in control of the voice. Setting up a game like "Simon Says" provides a natural opportunity for students to learn about the special equipment. The other students will understand better how it feels to talk differently.

Because Lynn has a variety of ways that she communicates, it may seem difficult to decide which "way" is best, which "way" you want to encourage. Please don't worry about how she communicates. If she chooses her word/picture board, just encourage her to voice the words as well. If she chooses her word board or her computer, accept only clear signals. It is difficult for her to be exact in her pointing or in her speech, but these are her learning years. She will not be discouraged in repeating either by pointing or speech if you take the responsibility. Say "I'm not sure what you said.", or "I understood part of it, could you try again so I can listen to the rest".

Don't be shy in double-checking the intent of a message. Often Lynn

will need to point to a word or picture that "comes close" to what she needs to say, but does not express it exactly. When this happens, it may be important to spend a few minutes clarifying the message.

You may need to teach other school personnel how best to communicate with Lynn. When people are unfamiliar with talking to a nonspeaking child, they often ask obvious questions that do not enhance communication. You may need to show them to ask "Where did you get that pretty shirt?", not "What colour is your shirt?".

Although it is difficult at first, please remember that a short dialogue with Lynn will do more to increase self-confidence than a long one-sided conversation. You will help Lynn believe that she has something of value to contribute by listening to her and encouraging her to try.

There will be some days that things don't go well. You need to expect this. If it seems that you are establishing a pattern of poor communication you may want to have someone help you. You may need to check with the physical or occupational therapist when they come to school. They may have suggestions on how to position the word/picture board differently, or a better way for Lynn to sit for communication. When the speech-language pathologist comes to class he or she may have some suggestions to make communication easier.

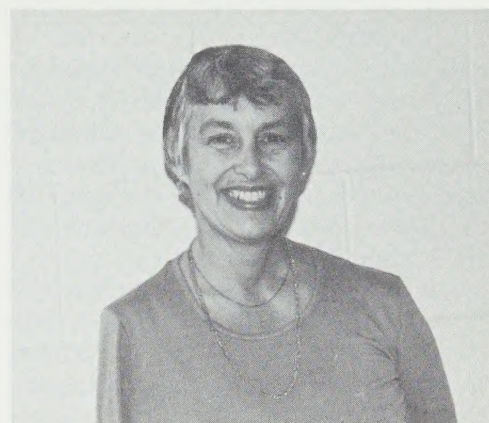
I know that you have been preparing mentally for your class since last spring. We appreciate your efforts in helping make Lynn's first year at school a positive learning experience. We also are still learning how to help Lynn best, after six years. Ask for help when you need it and don't be afraid to say if something is not working out in your classroom. Don't change your teaching style, be natural. You have helped hundreds of students over the years by teaching your way. Lynn is a special student, but never forget that the other 23 students in your class are also special in their own right.

Thank you Sue.

Sincerely,
Anne □

Come Play With Me

ANNE WARRICK



Communicating Together will publish a series of three articles by Anne Warrick on the subject of play. The first article "Come Play With Me" describes the design purpose of various toys, and the value of play for young children. It serves as a basis for the future articles "Yes, I Can Play - With Adapted Toys" and "Yes, I Can Play - With Adapted Games." Mrs. Warrick, a speech pathologist, is Program Coordinator of the AACE (Augmentative and Alternative Communication in Education) program of the Blissymbolics Communication Institute.

Stimulating children in their ability to understand new concepts, to problem solve, and to master new skills is a challenge to everyone. Watching children develop is an exciting and happy pastime, enjoyed by families, neighbours, and on-lookers in the playgrounds and parks where youngsters have fun. Today, while recognizing that some parenting skills appear to be intuitive, many mothers are looking to publications and community agencies to provide them with information on ways to encourage and enhance their new baby's learning. They know that by providing their little one with love, food, rest, play and communication, each babe will grow from infancy to independence. Both parents want instruction in helping their children learn about their world through play. They are looking to enhance the quality of mother, father, sibling and baby interaction. Toys, appropriately chosen and used, can provide the focus for an enjoyable shared playtime.

Through touch, spoken and bodily communication, speech, shared

activities, looking, and listening, infants' senses are stimulated. They become aware of their surroundings, the many objects around them, the sounds each may make, and the people who visit. Through looking, touching, smiling and talking, mothers establish the first communication links between themselves and their babies. Instinctively many mothers seem to know that once their child has learnt a new skill, there is need to practice it and to have it be the stepping stone to further learning. Once joint attention to each other has been established between mom and baby, the parent transfers the youngster's attention to objects — often toys which are brightly coloured and have different textures and interesting sounds. At this very early age the interactive components of communication — shared attention, turn taking, body language, facial expression, choice making and control over people and things — are already being established and reinforced. Through the playtime that mothers share with their babies, auditory, visual and tactile stimulation are provided as toys are touched, grasped and shaken.

As babies learn new skills they continue to explore by poking, grasping, releasing, observing, listening to language, and imitating. In order to pick up and manipulate toys they must see them, be able to follow their movement with their eyes, and coordinate these visual skills with the ability to reach and grasp. The developing child can grasp things by hand in advance of releasing them, and mothers instinctively help their babies gain new experiences by gently pulling away one toy and replacing it with another. Soon the infant starts to move about, to roll, creep, crawl, sit, pull to stand and eventually walk. These physical skills, which allow exploration and experience of both real objects and toys, develop in association with cognitive growth, the understanding of language, and social awareness. Supportive parents guide their children's development and independence in a socially acceptable manner.

Toys Move Through Developmental Stages

Toys can be the tools by which children demonstrate their movement

through developmental stages, leading to their growing understanding of their world. Children learn that although they can no longer see their toy cars, these objects have not necessarily gone forever. They drop a favorite teddy bear from the high chair and search for it on the floor. They learn that by pulling on a string they can cause toys to move or make sounds. They learn that objects have specific functions to perform. The spoon which they have used to bang on the saucepans is conventionally useful as a means of eating applesauce. They learn about people, their jobs, and their role in the neighbourhood, for example, by dressing up in the fire chief's clothes and hat, riding a pretend fire engine, and putting out the fire. They manipulate toys which represent the fire truck, the fireman and the burning house. There is a continuum of learning through play, and toys have an important role to play in the advancement of sensory exploration, object permanence, cause and effect relations, imitation, and representational play. Many of the activities which young children enjoy encourage their physical growth and skill. Large and small muscles develop coordination as youngsters climb, run, throw, cut, paste, colour and build. Language and speech emerge as they act out their roles. Social skills are learned through shared playtimes.

Interactive play is enhanced when relationships develop which support a child's creativity and imagination. Caregivers should enjoy time with children, exploring various activities together and enriching each experience through the use of language. As well, they can encourage physical, intellectual, communicative and social growth as each child comes to understand space, size, shape, colour, temperature, and the purpose of things and actions. Toys are designed to encourage understanding and learning of all children's capabilities.

The following toys can lead to meaningful, interactive playtimes by giving parents, friends or care staff the tools with which to encourage children in self discovery and independence. All toys listed have been approved by the Canadian Toy Testing Council. They have been randomly selected to support the points discussed. Enjoy!

Toys for Sensory Development

To stimulate sensory development, toys should have a wide variety of shapes, sounds, colours, textures and weights. Talking as they play teaches children the names of objects, actions, qualities etc. For example a caregiver can play with a child and teddy bear and talk to him: "Look at your big fat old bear. I'm going to take your hand and poke his tummy. Oh. Squeak. Squeak. Listen to old bear. He's soft. You feel him on your face. He's soft on your leg. He's soft on your tummy. He's coming to see you — give him a hug". This type of play develops the child's sense of touch, sight, hearing, an understanding of language and expression of feelings. A child's play may be solitary, or it may be shared with someone in mutually enriching and enjoyable pastimes.

Toy	Manufacturer
Baby Play Ball	Reliable Toy
Active Baby	Ambi
Clatter Clowns	Ambi
Funshine	Ambi
Animals on a Ring	Educalert
Animal Grabbers (soft toys)	Fisher Price
Bunny Teether	Fisher Price
Chime Ball	Fisher Price
Happy Apple	Fisher Price
Spinning Butterfly	Fisher Price
Piglet Crib Gym	Johnson & Johnson
Rolling Circus	Johnson & Johnson
Squeeze Toys	Lanco
Noah & Smooch	Gund
Care Bears	Kerner
Chime Bird	Playskool
Binkley Rabbits	Binkley

Toys for the Development of Eye/Hand Coordination

Toys for which children are motivated to reach, are visually attractive and brightly coloured. As play skills develop, posting boxes, jigsaw puzzles with large pieces, pounding toys etc. all encourage eye-hand control for large and fine movements.

Toy	Manufacturer
Baby Trainer	Ambi
Cradle Play	Kiddicraft
Flip around Flounder	Playskool
Winnie-the-Pooh Crib & Cradle Exerciser	Sears

Puzzle Post
Handi Boxes
Baby's First Blocks
Sound Puzzle Box

Johnson & Johnson
Ambi
Fisher Price
doBBio

toy away, they are also learning to creep, crawl and toddle along. They begin to enjoy these two activities together. The sounds, movement, and action stimuli which children receive as they pull a train or wagon behind them add learning and meaning to their activities.

Toys for Cause and Effect

Making toys sound, move, or change as they are handled is one way children learn that they can control some aspects of their lives. Turning a handle to have Jack pop out of his box, pressing buttons and levers to open cash registers or playing musical boxes all help children realize that their actions can cause changes in their surroundings.

Toy	Manufacturer
Disney Musical Busy Box	Child Guidance
Busy Poppin' Pals	Coleco
Activity Centre	Fisher Price
Musical Box Teddy Bear	Fisher Price
Activity Center	Tommee Tippee
Music Box Radio	Fisher Price

Pull Toys

During the time children are learning to pull on a string, or push a

Toy	Manufacturer
Rhythm Rollers	Johnson & Johnson
Ladybug	Fisher Price
Little Snoopy	Fisher Price
Chatter Telephone	Fisher Price
Pull-a-Tune Xylophone	Fisher Price
Cookie Monster Pull Toy	Hasbro

Imaginative Play

Imaginative play gives children the ability to role play and become fathers, mothers, mechanics & astronauts. Toys provide the props for this type of play. Later children can manipulate toys within the roles and experiences they have known through the enjoyment of a doll's house, farm workers and farm animals or an airport set.

Toy	Manufacturer
Combo Kitchen	Coleco
Gas & Go Service Center	Fisher Price
Sink Set	Fisher Price
Tea Set & Tray	Fisher Price
Woodtop Workbench	Fisher Price
Play Family Farm	Fisher Price
Play Family Jetport	Fisher Price
Play Family House	Fisher Price
Play Family School Bus	Fisher Price
Big Bird Sink	Hasbro
Big Bird Stove	Hasbro
Busy Driver	Irwin
Sit'n Drive	Irwin
Kiddy-Matic II Blender,	Pax
Mixer, Iron, Toaster	Pax
Astronauts and Space	
Shovel, Space Buggy,	Playmo Space
Car, Excavator	Playmo Space
Dinosaurs & Cavemen	Toyco

References:

- *All about Play: a Sourcebook for Planning Children's' Play Opportunities.* Canadian Council on Children and Youth, 323 Chapel Street, Ottawa, Ontario K1N 7Z2.
- *Canadian Toy Testing Council Toy Report, 1985.* Ottawa: Tyrett Press. Available from Canadian Toy Testing Council, P.O. 6014, Station J, Ottawa, Ontario K2A 1T1.

The Versatile Aid DIAL SCAN

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Ideas for Using the Talking Blissapple Program



Talking Blissapple is a software program which has been available from BCI or the Trace Research and Development Center, Madison, Wisconsin since 1981. Thomas Franzkowiak, a special education teacher from Dusseldorf, Germany, has sent the Symbol Office some of his ideas for using the software which may be useful to symbol users, parents and instructors. He emphasizes that students can use the program independently to complete many classroom tasks which require the use of a writing tool.

Letters

Writing letters is very popular with students who have learned how to use the *Talking Blissapple* program. The contents of these letters may be diverse: invitations, reports, requests, protests, etc. Being able to write Blissymbol letters enables students to establish and maintain social contacts. In addition they begin to understand some of the differences between face-to-face and written communication. Written messages must be stated clearly and concisely because symbol users cannot depend upon listeners' questions to clarify meaning.

Reports and Stories

Many students enjoy writing about experiences they have had such as outings, classroom activities or special events. They can also create stories and poetry. The program allows many symbol users to write their first essays on the computer. Some like to compile their texts into "books" about themselves. Such "books" can help students begin to learn to read traditional orthography. Symbols can be gradually replaced by words.

Worksheets

Some students may not yet be accustomed to writing letters and stories but might benefit from using the program to complete worksheets designed to meet their needs and capabilities. Teachers can actually use the software to create worksheets similar to those which are available commercially. Symbols can be printed out and pasted onto separate sheets which contain text, pictures, photographs etc. Some activities which have been used successfully include:

- Classifying symbols — find the symbol which does not belong in a series or discover the attribute which a list of symbols have in common.
- Matching symbols — find identical symbols or symbols which are related.
- Matching symbols to words.
- Describing pictures or photographs.
- Sentence completion ("Fill in the blank") exercises — complete sentences which may serve as models for correct sentence structure.

* * *

The Symbol Office thanks Mr. Franzkowiak for sending his ideas to *Communicating Together*. We encourage those using and teaching Blissymbols to share ideas which may prove useful to others.

Blissymbolics is a meaning-based, augmentative communication system offering vocabulary, structure and strategies to stimulate communication and cognitive development. It can benefit persons of all age and intellectual levels who have the potential and opportunity for interactive, functional communication. Blissymbolics can be used independently, with a variety of picture systems and technologies, or as a complement to words and spelling.

Blissymbols used herein are derived from the symbols described in the work *Semantography*, original copyright © C. K. Bliss, 1949.

September 1982, C. K. Bliss granted an exclusive, non-cancellable and perpetual, world-wide license to the Blissymbolics Communication Institute, for the application of Blissymbols, for use by handicapped persons and persons having communication, language and learning difficulties.

The symbol composition and drawings appearing in articles are in accordance with *Blissymbols for Use*, compiled and edited by Barbara Hehner, and published by the Blissymbolics Communication Institute, Toronto, 1980.

SYSTEM DEVELOPMENT NEWS

International Symbol News



Members of the International Panel have had two meetings in recent months. The first was held in Orlando, Florida in May 1986. The second took place prior to the Fourth International ISAAC Conference in Cardiff, Wales. Such meetings provide an excellent opportunity for Panel Members to express their views and opinions regarding current Blissymbol development and to share ideas for new Blissymbols. Get-togethers are always stimulating. It is not uncommon for them to last until the wee hours of the morning! Members are currently developing new symbols for young adults. Topics include personal hygiene, grooming, sex and reproduction, work and leisure activities.

New Symbols



The Symbol Committee met in November 1985 to authorize over 65 new symbols. Some of these symbols are listed below. If you do not already have a complete list of new symbols and wish to have your name added to our mailing list, please send your request care of the Symbol System Co-ordinator at BCI.

beaver



rodent + pictograph of tail + water: the long flat tail is a prominent feature

gerbil,
guinea pig,
hamster



rodent + feeling: a rodent often kept as a pet

lobster,
crayfish



pictograph of crustacean with pincers

grocery store,
food store



public room + food
(This symbol was previously labelled restaurant)

oyster,
clam



pictograph of shellfish + water

restaurant,
cafeteria



public room + to eat
+ action indicator: a public place where one goes to eat.

peacock



bird + pictograph of fan-shaped tail: a bird with a tail open like a fan

dining room,
cafeteria



room + to eat + action indicator: a room where one eats.

owl



bird + night: a night bird

THE PARAPHRASE

The Paraphrase is written for those who are nonspeaking and who are moving into traditional orthography. It offers an independent reading opportunity for the growing reader.



Andrew on the ski toboggan with his friends.

A Dream Come True

Do you dream about doing something special? Andrew Murphy did. Here is his story.

My family likes to ski. It was frustrating for me. I wished that I could ski too.

I told this to my special friend. She gave me a special birthday present. I went skiing!

She talked to the people who work at a ski hill. I lay in the ski patrol toboggan. The ski instructors took me up and down the hill. It was a real thrill! And I met some new friends.

I had wanted to ski for a long time. I'm glad I told my feelings to my friend. She helped me to do it.

About the Writer:

Andrew Murphy now lives in Florida. He is seventeen years old. He and his father write a column each month for *Communicating Together*.

To Readers of Paraphrase:

We want to know what you think of Paraphrase. Please write your ideas to Ann Kennedy, Editor, *Communicating Together*.

Andrew's original skiing story was printed in the "Family and Community" section. *Communicating Together*, Vol. 3, No. 2, June 1985.

Hi I'm Derrin

DERRIN SEATON AND ANNE WARRICK

Anne Warrick is a consultant with the Augmentative and Alternative Communication with Education (AACE) program of the Blissymbolics Communication Institute (BCI). At a recent AACE seminar, "Experiences in Total Communication" she invited Derrin Seaton to participate. The following is an account of that presentation.

I waited for him in the hallway, wondering how he would be feeling about his first presentation at an AACE seminar. Shortly, before nine he came through the door. Who was it who wrote that the eyes are the mirror of man's soul? How true the statement is of someone experiencing severe speech impairment. For sure — the eyes say it all, and so it was with the handsome young man with smiling eyes, fair hair and freckles that came forward to meet me.

The focus of our educational day was to be on Total Communication and I had asked Derrin to share his thoughts on the joys and frustrations of growing up using a limited range of communication modes. He had decided upon his initial ideas alone, using the computer and his Blissapple program. His friend Anne Cummings had helped him develop and expand his thoughts. Together, through the use of Blissymbols, signs, finger spelling and vocalizations they had prepared their presentation. It had taken them many hours, and we knew they had prepared well, for that confidence which readiness generates was obvious in this young man as he took his place in the centre of the seminar participants. Anne sat beside him; easy, attentive and supportive. He was alert and excited, leaning a little forward and to the right in order to see his communication display, should his chosen modes (signs and finger spelling) become unclear. With a nod to Anne he indicated his readiness to begin and for her interpretation to the audience. He introduced himself.

Derrin's Speech

The following is the text of the speech Derrin presented to us that day. He used a brief telegraphic style in his presentation.

Hi,
My name is Derrin
I am deaf and C.P.
I communicate with Bliss, Sign
Language and on computer
I am twenty-one years old
and I live at Bob Rumball Centre
for the Deaf

Growing Up

Nothing hearing
Nothing talk
Test deaf — nothing
Parents Derrin deaf — nothing
Walk — no
School — no, Deaf — no, Com-
municate — no
Parents know deaf yes — old 12
Derrin change house, change school
Family communicate — nothing
Learn sign language, Bliss slow,
slow, slow communicate family
Derrin — hard
Derrin change school, home again
Bob Rumball Centre for the Deaf,
learn Sign — yes, Bliss — yes
Derrin like communicate all
Derrin Bob Rumball Centre for the
Deaf Sign Language — yes and
little Bliss

Derrin school Bliss yes, Sign —
no, communicate teacher — yes,
friends hard
Derrin like Bliss, understand good,
Derrin like Sign Language — fast
Derrin like computer — fun

Future

Derrin want live self, work self,
computer, pay, money yes
Derrin like talk people understand,
slow patience please

In this telegraphic way, Derrin described his residential changes, his various diagnoses, his differing abilities with and feelings about communication systems. Our seminar provided Derrin with his first experience with speech synthesis when Kari Harrington spoke using her Epson. His comment "I want one".

Good luck Derrin! □

Editor's Comment: *The audience at the workshop had the opportunity to ask questions for clarification of any of the telegraphic messages that were unclear. For our readers, Derrin's friend Anne Cummings wrote an expanded version of his speech, finishing with some comments of her own.*

Derrin told the audience that he could not hear or talk, but no one gave him an audiological test. As he was growing up, his parents knew



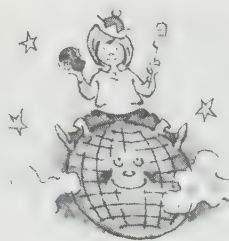
Derrin Seaton with his former teacher Ken Sullivan at Sir William Osler Vocational School.

he was disabled and could not walk but they did not know about his deafness until he was about twelve. Derrin had difficulty communicating both at school and home until the time that his deafness was assessed. About the same time he encountered the new frustration of having to change schools and residences in order to learn to communicate. Now that he has mastered Blissymbols and signing he prefers to use different modes in various situations and he explains where he uses each, and what he likes about each.

Derrin says that in the future he wants to be as independent and self sufficient as he can, and his goal for the future is to communicate with people. He enjoys communicating and is willing to use whichever mode people are most comfortable with. All he asks in return is patience and understanding when conversing slowly.

I think anyone who knows this vibrant and intelligent young man would be sure to say "Please take the time, he is well worth the wait". A.C.

Palle Alone in the World



This delightful children's book, with text in Blissymbols, is based on a Danish story by Jens Sigsgaard. It was translated into Blissymbols by Gösta la Cour and illustrated throughout with colourful drawings by Arne Ungermann. Included with the book is an English translation of the story by Jinny Storr, and a dictionary of symbols used.

ISBN. 87-981440-14 Price in
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42 pages \$15.00
+ shipping

Prentke Romich - ISAAC Scholarship Program

Prentke Romich Company and the International Society for Augmentative and Alternative Communication announce the establishment of a scholarship program to encourage studies in augmentative and alternative communication. The program provides scholarships of up to \$1000 per scholar toward tuition and costs. Scholars in the fields of speech pathology, special education, occupational therapy, physical therapy and related fields may apply. The program is available both to full time masters program students and to practising clinicians/educators who wish to advance their knowledge of this exciting, new and rapidly changing field. Applicants must be ISAAC members.

For ISAAC membership information and to obtain a scholarship application form and information contact: ISAAC Secretariat, P.O. Box 1762, Station R, Toronto, Ontario, Canada M4G 4A3.

COMMUNICATION OUTLOOK

Focusing on Communication Aids and Techniques

A Publication of the International Society for

Augmentative and Alternative Communication (ISAAC)

Communication Outlook is an international quarterly which provides a forum for individuals interested in the application of techniques and aids for people who experience communication handicaps. It is a cross-disciplinary information source as well as a reference for those wishing to contact others working in the field of communication enhancement.

Communication Outlook features regular sections on: commercially available aids, aids under development and components to build aids; interfacing and augmenting aids; new publications and resources; centers and groups involved in various aspects of communication enhancement; innovative methods, procedures, teaching strategies and uses of materials shared by readers; and advocacy issues, including new groups, strategies and successes.

The International Society for Augmentative and Alternative Communication (ISAAC) was formed to advance the transdisciplinary field of augmentative and alternative communication techniques and aids. Membership in ISAAC includes a one-year subscription to *Communication Outlook*. ISAAC offers Student/Consumer Membership for \$15, Active Membership for \$25, Contributing Membership for \$100 and Corporate Membership for \$500. For membership information, write ISAAC, P.O. Box 1762, Station R, Toronto, Ontario M4G 4A3.

For subscription information, contact *Communication Outlook*, Artificial Language Laboratory, 405 Computer Center, Michigan State University, East Lansing, Michigan 48824-1042, (517) 353-0870.

Prentke Romich AAC Awards Program

The President of the Prentke Romich Company and the Editor of *Augmentative and Alternative Communication (AAC)* announce the establishment of an awards program to recognize and reward the best articles published in AAC. Three awards are offered annually:

- Prentke Romich AAC Editor's Award
- Prentke Romich Student Award for a Clinical/Educational Paper
- Prentke Romich Student Award for a Research Paper with Clinical/Educational Implications

For information contact: Lyle L. Lloyd, Ph.D., Editor, AAC, Special Education, SCC-E, Purdue University, West Lafayette, IN 47907 U.S.A.

Prentke Romich Company is a world leader in the development and manufacture of augmentative communication systems, helping people work toward higher personal achievement.

Computers and the Mentally Retarded

ANGIE HAINS

Angie Hains is Program Director of the Apartment Program operated by the Metropolitan Toronto Association for the Mentally Retarded. Ms. Hains has been associated with it since its inception ten years ago. She is particularly interested in computer-assisted learning and has been using computers with her clients for about three years.

When the staff of the Apartment Program first had access to a Commodore 64 in early 1985, we were very excited about the possibilities of using the computer as a teaching tool for our clients.

More than a hundred adults live semi-independently within the Apartment Program operated by the Metropolitan Toronto Association for the Mentally Retarded. Most function in the mild to moderate range while a few have been described as severely retarded, and a few have been classified as functioning in the borderline range. Some clients have additional disabilities such as visual, hearing or speech impairments, or limited use of their limbs.

One of our first challenges in using computers was to find appropriate software to teach the functional living skills our clients needed to learn. We found few programs which met these needs. We hired a high school student to write some programs that we had designed, but these still lacked the flexibility to be adapted for use with a variety of clients.

A breakthrough came when we discovered the Speech Master 64 software, designed for the Commodore 64, and used with a touch-sensitive keypad and voice module, in this case the Pro Voice speech synthesizer. (See the following article for a more complete description of the components.) This package has proved to be a very flexible teaching tool. The main advantage for staff is that it is possible to execute programs without any knowledge of computer programming. The menu is easy to decipher, and when a particular

mode is chosen from the menu, prompts are given for each action that is required.

Programs Can Teach Many Concepts

An example of an easy program created by a staff member using Commodore/Speech Master 64 for the first time is a coin recognition program. The name of each denomination of coin to be taught was entered into a specific area of the touch-sensitive keypad in two ways — the way the name is printed, and the way the name is pronounced. By taping the different denominations of coins onto the corresponding area of the keypad template, the client can touch the coin, and hear the name of the coin spoken as he touches it. The name of the coin appears on the screen, and if desired it can be sent to the printer.

This system has many advantages for clients. They do not need to be able to read, or to use a computer keyboard. They need only to be able to touch the appropriate area on the pad, and the response will be printed on the screen at the same time as it is spoken by the speech synthesizer. Clients seem to enjoy the immediate feedback they get from the computer. Many have commented that the computer "talks like a robot". Sometimes clients seem to be more interested in hearing the computer talk like a robot than in hearing

our staff say the same thing. As a result, the attention span for this type of learning activity seems to have increased in most clients.

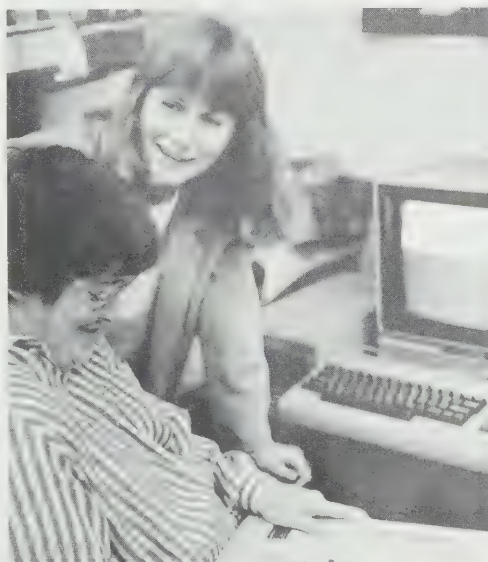
Using the Speech Master 64 software, it is relatively easy to adjust a program when a client is ready to learn something new. The coin recognition program can be quickly adapted to produce a change-making program. Again this can be done by taping combinations of coins onto the template and entering the corresponding words in the appropriate area of the pad.

We have developed other teaching programs in the areas of nutrition, menu planning, grocery list preparation and emergency procedures. As most of our clients do not read, we use pictures or symbols on the template instead of words. Each of these programs has been developed for individual clients, taking into account both their learning needs and learning style.

Recreational Applications

This system has also been used effectively as a recreational tool. After using the set-up to work on his grocery list, a client suggested that he would like to make up a program of his favorite wrestling stars. He wanted to tape wrestling cards onto the template, and have the "robot" say the wrestler's name when the card was touched. The staff and client worked together to develop this program, and especially enjoyed entering the wrestlers' names phonetically. The program was a great success. The client not only enjoyed creating the program, he also enjoyed the opportunity to impress his friends with his handiwork.

In summary, we believe this computer system has brought us a step closer to realizing the potential of the microcomputer as a teaching tool. □



Angie Hains watches Tatti Webster use the Speech Master 64 software program.

This section of
Communicating Together
is sponsored by
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Computer-Assisted Speech for the Vocally Impaired

RONALD S. GOLEMBIA AND LEO SPINDEL

Ron Golemba and Leo Spindel are developers of microcomputer software. Their company, SPC Software Limited has developed a number of home productivity software programs. Mr. Golemba and Mr. Spindel are also faculty members in the psychology department at Centennial College in Scarborough, Ontario.

Our product, Speech Master 64, is a computer-based speech generating program for the Commodore 64. The idea for Speech Master 64 emerged when we realized the growing need for assistive devices particularly for people with speech and fine motor control difficulties. Although several technical aids exist which do address the communication concerns of individuals with speech and motor problems, few, if any, expand on the development of language and vocabulary skills including progressive (or incremental) development of abilities. Speech Master 64 meets these needs for less than \$350.00.

Speech Master 64 essentially assists the user in written and vocal communication. Apart from the Commodore 64 computer, an accompanying disk drive and screen, (a printer is optional), the package consists of a touch sensitive keypad with 144 programmable keys, templates (or overlays), a special cable adapter which connects the keypad to the computer, and a votrax-based speech module which plugs into the computer's expansion port. The speech module also has its own built-in speaker/amplifier. In this case we are using the commercially available ProVoice.

Once the program is running and the keys defined for the user's needs, the keypad then becomes the main communication instrument. The keypad is configured on a grid (12 rows by 12 columns). The top row of 12 keys (the "power line") has been predefined and is therefore fixed. These twelve keys perform several functions including volume and printer access. The remaining 132 keys are programmable. Each key can be defined to

express words or phrases up to 35 characters in length or the user can redefine several keys to represent one large key.

The votrax-based speech module provides voice output for the word or phrase representing the particular key. At the same time, the words representing the depressed keys are printed to the screen (or printed out if desired). Speech Master 64 also includes one blank template (overlay) arranged in a grid representing the 144 keys on the keypad. The user can print on or affix to each square the meaning of the defined key below.

The software program for Speech Master 64, which is totally menu-driven, includes an editor and several disk utility functions. The user can also call up help screens to recall the function of a particular menu option. The editor allows words or phrases to be created, added, or edited as necessary.

Current users of Speech Master 64 have designed their own templates to suit individual client needs. For example, a template could contain both words, symbols and/or pictures. Other templates contain actual pictures of individuals or objects with whom face-name identification is desired. Individual letters of the alphabet and numbers can also be defined for each key (or series of keys).

The touch sensitive surface of the keypad is a great assist for individuals with fine motor control difficulties. The addition of the speech module enhances communication for those with speech problems. Together they provide a most useful resource. □

Editor's Note:

For more information about Speech Master 64, contact: Leo Spindel, SPC Software Ltd., P.O. Box 197, Thornhill, Ontario, Canada L3T 3N3 Telephone: (416) 889-9229

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Expo '86

ANN KENNEDY

This past summer I had the opportunity to visit Expo '86, the World Fair held in Vancouver, British Columbia. The theme of the fair, "Transportation and Communication", was carried throughout the many pavilions, films and audio-visual presentations. In the Canada pavilion it was exciting to see that nonspeech communication was included as one of the variety of fascinating displays in the building. The general public seemed intrigued with an exhibit which used a Blissymbol vocabulary on two MacIntosh displays to demonstrate an alternative way of communicating using a graphic symbol system. In fact the display was so popular I had difficulty getting close enough to have my turn "to play" with it.

Designed by Jim Mackie, a freelance consultant, the exhibit was set up as a game to allow the public an opportunity to use technology designed to assist nonspeaking members of society. The exhibit involved two visitors, each at a display board with Blissymbols. The MacIntosh keyboard was connected to button switches beside the Blissymbols on the display board. One person could select a message

to send to the other. A large black and white monitor was associated with each station so that observers at the booth could see the messages being sent between the participants.

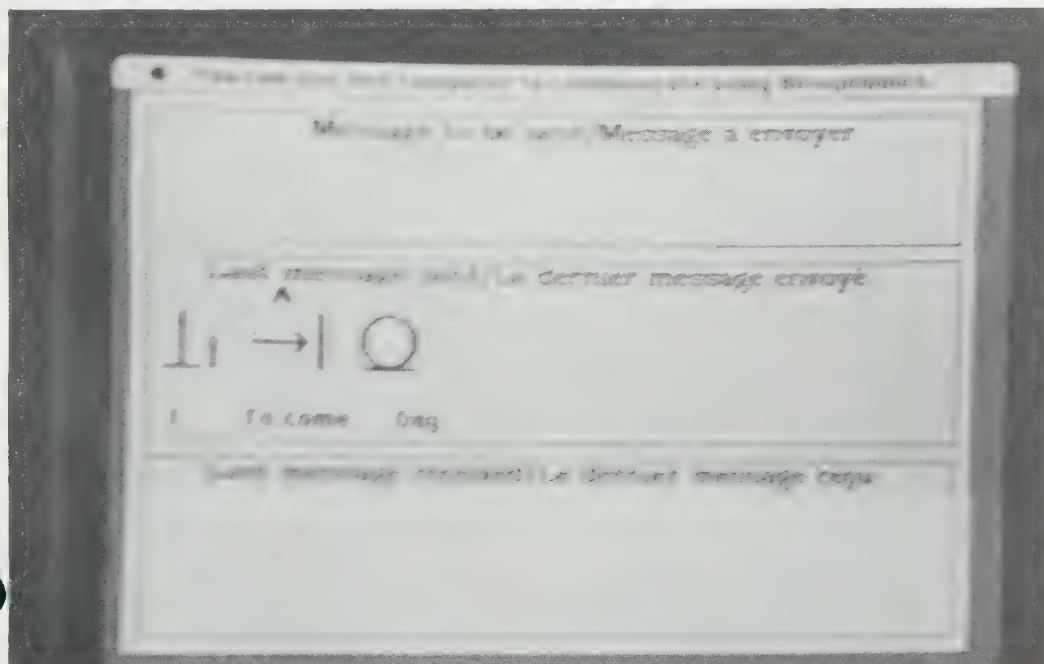
Mr. Mackie selected the vocabulary and Lynn Zucker of Apple Canada wrote the program for this innovative demonstration. The vocabulary was shown with English and French word translations. By pressing the button on the keypad beside the Blissymbol, the symbol appeared on the "senders" screen. When a full message was completed, the participant could send this message to the other display where it appeared on the section of the screen designated for "last message received". Using the same procedure, the "receiver of the message" could send a reply back to the first station.

A general vocabulary of words and sentences was chosen, typical of the type of phrases that the public might use when at a fair. Although the vocabulary was limited, it allowed people to create phrases and sentences of their own, and to be creative in finding ways to express themselves. For example, my son sent the message "I came today" to the other station, using the symbols available on the display "I", "(to) come", "day". This is shown in the picture which we took of the MacIntosh screen.

Hopefully some of the many thousands who stopped at the exhibit in the six months of the fair, reflected on the difficulties encountered by those with little or no speech, and appreciated the special abilities that advanced technology is now providing for nonspeaking people. □



Display showing display board, MacIntosh screen and large TV monitor.



Closeup of MacIntosh screen, showing message that was sent to the other station.

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Research and Publications

Our readers will notice that this issue does not contain the regular section "Research and Publications" written by Geb Verburg.

In order to include Dr. Yovetich's research oriented article "Perspective", Mr. Verburg offered to withhold his regular feature this time. "Research and Publications" will return next issue.

The Editors

Verbal and Nonverbal Processing Systems

WILLIAM YOVETICH



William Yovetich is a Speech-Language Pathologist. His doctoral study was in the field of cognitive psychology. Dr. Yovetich is presently Assistant Professor of Speech-Language Pathology, Department of Communicative Disorders, Faculty of Applied Health Sciences at the University of Western Ontario, London, Ontario. His areas of specialization are stuttering in children and nonverbal communication systems. In this "Perspective" Dr. Yovetich shares with us some of his current thinking regarding cognitive processing systems, based on findings of the clinical studies undertaken for his doctoral presentation.

In presenting my perspective on augmentative and alternative communication, I would like to discuss it in terms of three general areas: first, how I became interested and involved in the area; next, my theoretical point of view with some supportive research for this view; and conclude with clinical/teaching implications of such a perspective, including suggestions for future research.

My interest and hence perspective on nonspeech communication and Blissymbols came when my area of study branched out from speech-language pathology into cognitive psychology at the doctoral level. It seemed to me that although clinical comparative studies and high-tech studies were being undertaken, vir-

tually nothing was being done in the area of basic research. A review of the literature revealed that, historically, research on augmentative and alternative communication had been sporadic attempts on intervention issues. Nowhere could I find questions being asked about why these systems worked well with populations that were not benefiting from traditional orthography.

I was fortunate to be at the University of Western Ontario, and associated as a graduate student with Dr. Allen Paivio. It was his dual coding model of memory (Paivio, 1971) that sparked my interest in this area of augmentative communication and led me to serious study. As a speech-language pathologist, I was not trained to look at memory systems. We dealt with speech and language. I began to wonder how we could have avoided dealing with memory, given that language involved communicating about things that were no longer present and things which were yet to be. How did individuals store and retrieve information? It became evident to me, that in my speech-language pathology training, memory had been treated implicitly as a psycholinguistic process. I was taught that we stored our perceptions, or experiences, by a common code which could be later retrieved and reconverted into linguistic forms or descriptions by some cerebral executive system.

Despite this implicit memory model, no one seemed to be questioning why these symbols (Blissymbols, Rebus etc.) worked when written words didn't. If, as implied in the single code models of memory, we convert all information into a common form for storage and later retrieval, wouldn't all incoming information be "treated" equivalently? If words and nonwords (which would include symbols, signs etc.) were processed and stored in a similar symbolic representational form, then one would not expect a person to be able to process an ideographic symbol if they could not process traditional orthography: within a common code model, the two tasks would make

the same demands upon cognitive processing.

Memory versus Cognition

Paivio's model offered me, a speech-language pathologist, a new perspective. The model is based on the assumption that memory and cognition are served by two separate symbolic systems, one specialized for dealing with verbal material and the other with nonverbal information. The two systems are presumed to be interconnected but capable of functioning independently. "Interconnectedness" means that representations in one system can activate those in the other, so that, for example, pictures can be named and images can occur to words. Therefore the primary manner in which perceptual information is processed depends upon whether the information is verbal and, hence, in a linguistic form or nonverbal and, therefore, in a nonlinguistic form. Detailed discussion of these issues can be found in Paivio (1971), Paivio and Begg (1981), and Paivio (1985).

The scope of this article does not permit in-depth discussion of the differences between the verbal and nonverbal processing systems as expounded by Paivio (1971, 1985). However, I wish to offer clinical implications based upon my understanding of the differences in the two processing systems. Some of the individuals to whom augmentative communication systems are being introduced have neurological impairments that caused psycholinguistic damage. They may not be mentally retarded in the sense that all of their cognitive functions are retarded or delayed. Rather, the system responsible for processing psycholinguistic information could be damaged, negatively affecting the ability to process verbal information, but the nonverbal system might be intact. That is probably why we see many individuals able to demonstrate nonverbal knowledge or ability; they cannot tell us, but they can show us. The verbal system processes information sequentially whereas the nonverbal system

does so in parallel or synchronously. Perhaps symbol representations (like Blissymbols, that take information and represent it in a holistic, conceptual way) allow these "damaged" individuals to use an intact system in their storage and retrieval of perceptual information.

Symbol systems, like Blissymbols, have shown us that we do, in fact, process information in two distinct ways. That is my perspective. We process information differently when that information is nonverbal — a sense, a taste, a feeling, an image, a picture. A more abstract, and I believe later developing phenomenon in normal humans, is our capability for processing in a psycholinguistic or verbal modality.

Research Findings

The theoretical point of view that I hold (as it applies to symbol systems) has been supported by the research conducted by myself and colleagues over the past eight years. I will highlight some results of these studies, several of which are in preparation for publication. The tactic I pursued was to find a valid and reliable psychological attribute and establish a sound normative data base about it. In early 1978 I began collecting normative data on the psychological attribute of representativeness of Blissymbols. "Representativeness" was defined as the degree to which a symbol is perceived as representing its concept or word referent. Four seminal studies were carried out and the results reported at the European Association for Special Education (EASE) conference held in Helsinki, Finland, in 1980. The results were later published in a report on the conference (Yovetich & Paivio, 1981). These early studies demonstrated that representativeness was a valid and reliable psychological attribute of Blissymbols. They also demonstrated that representativeness of a symbol had an effect on learning and was closely related to, but independent from, the iconicity or concreteness of the symbol.

Since these initial studies, I have continued research with normal adult subjects to further my understanding of symbol processing. I have restricted myself to the use of Blissymbols because of the large corpus of normative data I collected

on them during the early studies.

A study (Yovetich & Young in review) has substantiated other reports (Luftig & Bersani, 1985) that the guessability of a Blissymbol is related to its iconicity. However, in our study we further demonstrated that representativeness of a Blissymbol was a more important psychological attribute than iconicity. Based upon our findings, it would seem that guessability is in fact a confirmation of an individual's idiosyncratic symbolic representation of a concept.

In another study (Yovetich & McBride in progress) we conducted an investigation to examine the effects of presentation modality on the learning of Blissymbols. Our research question was to determine if, in a "paired associates" task, recall of a Blissymbol referent was affected by whether the symbol had been paired with a written word label or spoken label. Clinical intuition suggested that there should be no difference between presentation modality, however no empirical data were available to support this notion. As expected, we found that, in presenting Blissymbols for an individual to learn, written and spoken labels were equally effective, providing the association between symbol and concept was established. The result encourages one to undertake studies with younger nonreading individuals without having to experimentally control for mode of presentation (written versus spoken label).

Memorability

Finally, two studies on the memorability of Blissymbols were conducted. They dealt with the question of the effect of representativeness on the storage and retrieval of Blissymbols. The research question was, did ideographic Blissymbols representing abstract concepts concretize these concepts. Experimentally, concretization would be confirmed if concepts previously judged to be abstract (i.e., unable to elicit a concrete referent) were more readily recalled when they were presented as Blissymbols than when presented as written words. Confirmation of concretization would be analogous to the reports that pictures are more readily recalled than words. In the two studies, I found that no matter how abstract the symbol (i.e., ideographic versus the

more iconic pictographic), the Blissymbol was still recalled more often than when the same concept was presented as a written word. In effect Blissymbols did "concretize" abstract concepts and therefore enhanced their "memorability". To return to an earlier argument, if information is processed in a single amodal manner the form of the information (i.e., linguistic or non-linguistic) should not make any difference to its memorability. Either form should be treated equally and therefore no difference should be found — yet there was!

What we need to do now, I think, is to take much of the information that is coming to us from basic research carried out with normal subjects and apply it to the disabled populations. For example, we are beginning to get a picture of those variables that affect learning in the normal individual with an intact processing capability. Now we need to conduct similar studies with individuals who have disabilities. We must vary the psychological attributes, such as representativeness and structure complexity, in ways that will allow us to discover which of these variables will help our clients learn the systems quickly. Which system(s) will help them develop cognitively? Which system(s) will help them communicate rapidly and effectively? I believe our goal should be to provide disabled persons with opportunities to develop communication skills such that they can participate to their maximum potential within the general population. □

References:

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SCHEDULE OF EVENTS

AACE Special Interest Seminars

In Toronto, Ontario

The Augmentative and Alternative Communication with Education (AACE) program of BCI holds a series of one-day seminars three times during the year on a variety of topics related to the application of augmentative communication. The tentative schedule for 1987 is as follows.

- March 2-5, 1987
- August 17-18, 1987
- October 5-8, 1987

Other scheduled sessions:

- April 27, 1987
"A Focus on Graphics"
- August 19-21, 1987
Blissymbol Elementary Workshop, and a one-day practicum to the *Independent Study Program*.

All sessions will be held in the new AACE Resource Centre. For further information and details on seminar topics, contact: Program Co-ordinator, AACE Resource Centre, Blissymbolics Communication Institute, 24 Ferrand Drive, Don Mills, Ontario M3C 3N2 Telephone: (416) 421-8377

Blissymbol Elementary Workshop

In Sioux Falls, South Dakota

- January 21-23, 1987
Third day focus, "Augmentative Communication Overview".

Contact: Mrs. Jody Loeth, Blissymbolics Resource Centre, Crippled Children's Hospital and School, 2501 West 26th Street, Sioux Falls, South Dakota, 57105, U.S.A. Telephone: (605) 336-1840

ISAAC — ACS Seminars

The International Society for Augmentative and Alternative Communication (ISAAC) and the Augmentative Communication Service (ACS) of The Hugh MacMillan Medical Centre are co-sponsoring the forthcoming seminar.

In Toronto, Ontario

- February 12, 13, 1987 at The Hugh MacMillan Medical Centre

"Assessment and Intervention Issues in Augmentative Communication — to Establish Basic Communication Skills"

Contact: Ms. Karen Henry, ACS, The Hugh MacMillan Medical Centre, 350 Rumsey Road, Toronto, Ontario, Canada M4G 1R8 Telephone: (416) 424-3805

Hamilton-Wentworth Communication Collective

"Total Communication for Nonspeaking Individuals"

In Burlington, Ontario

- April 24-25, 1987 at the Holiday Inn

"Total Communication for Nonspeaking Individuals"

Contact: Mrs. Shelley Deegan, Cerebral Palsy Centre, Chedoke-McMaster Hospitals, Box 2000, Station A, Hamilton, Ontario L8N 3Z5 Telephone: (416) 521-2100 ext. 7031

CEC

"Technology and Media Division"

In Alexandria, Virginia

- January 15-17, 1987 at the Radisson Mark Plaza Hotel

"Effective Utilization of Technology"

Contact: Dr. Michael M. Behrmann, George Mason University, 4400 University Drive, Fairfax, Virginia 22030, U.S.A. Telephone: (703) 323-2541

Severe Handicaps Alliance for Public Education (SHAPE)

In Edmonton, Alberta

- May 6-8, 1987 at Fantasyland Hotel, West Edmonton Mall

"Severe and Multiple Handicaps Alternative Futures"

Contact: Dick Sobsey, Conference Co-ordinator, Department of Educational Psychology, Faculty of

Education, University of Alberta, Edmonton, Alberta T6G 2G5 Telephone: (403) 432-3755

Trace Center Workshops

In Billings, Montana

- April 2-3, 1987 at Eastern Montana College

"Selection and Application of Microcomputers for Disabled Individuals"

In Mt. Clemens, Michigan

- May 14-15, 1987 at Macomb Intermediate School District Educational Service Center, Mt. Clemens, Michigan

"Development of Communication and Interaction in Nonvocal Children and Adults"

Contact: Workshop Co-ordinator, Trace Research and Development Center, Room S-151, Waisman Center, 1500 Highland Avenue, Madison, Wisconsin 53705-2280 U.S.A. Telephone: (608) 262-6966

Blissymbolics Communication Institute

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